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AND
PHOTOGRAPHIC
ENLARGER
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NOTICES.

THE *Optical Magic Lantern Journal and Photographic Enlarger* is issued on the 1st of each month during the Lantern Season, October to March, price Two Pence, and may be obtained from all Newsvendors, Railway News Stalls, Photographic Dealers, or from the Publishers, at the following rates, post free:—

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SMALL ADVERTISEMENTS must reach the office not later than the first post on the 24th of the month. All cheques and postal orders to be made payable to the Magic Lantern Journal Company, Limited.

EDITORIAL communications must be addressed, **THE EDITOR.** Advertisements and business communications to **THE MAGIC LANTERN JOURNAL COMPANY, Ltd., 9a, Carthusian Street, London, E.C.**

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This Journal is published Monthly during each Lantern Season, *i.e.*, from October to March inclusive.

NOTES.

A Nice Lantern Order.—We understand that Mr. Edmund H. Wilkie, 114, Maygrove Road, West Hampstead, N.W., is at present building two important lanterns for customers; one a triple with Wray's objectives (specially made) at a total cost of £280, and another fitted with Dallmeyer's objectives.

* * *

Lantern Illumination.—We feel sure that a lantern illuminant somewhat after the style mentioned on another page in this issue, in which kerosene oil is used in conjunction with a mantle, would be much sought after if some energetic lantern dealer in this country would supply them. In America this form is highly spoken of and extensively used. An American correspondent states that no one who had tried this form would ever think of reverting to the oil lamp with wicks.

Lighthouses and Wireless Telegraphy.—The Northern Lighthouses Commissioners of Scotland have taken this matter in hand, and the first installation will take place at the Flannan Islands, about 16 miles off the West Coast of Lewis. This is the first point sighted by vessels from America.

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Death of Mr. H. G. Madan.—We regret to announce the death of Mr. H. G. Madan, Senior Fellow of Queen's College, Oxford, and head (for the last twenty years) of the Science Department of Eton College. Mr. Madan was also a most enthusiastic lanternist, and kindly contributed to our 1897-8 ANNUAL an interesting article on "Lantern Experiments on Colour," whilst in our following ANNUAL his article of nearly thirty pages on "Lecture Demonstrations of the Laws of Polarised Light" is considered the most valuable treatise ever published upon the subject.

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New Patent Office.—The new Patent Office in Southampton Buildings, Chancery Lane, after rebuilding has been opened to the public. It is a fine hall—139 feet 3 inches long, 59 feet 6 inches wide, and about 74 feet high. The floor of the library is devoted to English patent specifications, indexes, etc., scientific text-books, and the current as well as the unbound numbers of English and foreign periodicals. On the lower gallery can be consulted the foreign patent specifications and the bound volumes of periodicals and magazines. The top gallery is reserved for books that are rarely used.

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London and Provincial Photographic Association.—Some time ago we announced that Mr. A. L. Henderson had invested a sum of money sufficient to produce £5 annually, which was to be given as a prize for the best annual paper on a chemical subject. Another member, who does not wish his name revealed, has done likewise to the extent of £2 2s. per annum for the best paper on any subject. These are not confined to members of this particular society, but are open to the world at large. The Hon. Sec., Mr. W. D. Welford, has offered medals for the best pictorial prints submitted by members, there being no restrictions as to size, process, or faking.

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Illustrated Concert.—As our last issue was going to press, particulars reached us of an entertainment run on lines somewhat out of the ordinary groove, which was given before a large audience at the Cobden Hall, Broughton. It consisted of a concert, the most important feature of which was the illustration of every item by means of the oxyhydrogen lantern. The object of this illustrated concert was for the benefit of the Society for Prevention of Cruelty to Animals. The artistes who gave their services were Miss May Valentine (prize medallist), Miss E. Foxley, Mr. J. Stott and Mr. E. Cheetham, vocalists. Mr. J. Riley presided at the piano and Mr. T. Smith at the lantern. The concert was a great success.

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Edinburgh Photographic Exhibition.—The annual exhibition in connection with the Edinburgh Photographic Society will be held at their headquarters, 38, Castle Street, Edinburgh, from the 15th inst. to March 8th. Entries close on Wednesday, the 8th inst., and all information required may be obtained from Mr. J. B. Robinson, 52, Hollybank Terrace, Edinburgh. There will be no classification of pictures, and the only awards will be the bronze medal of the society.

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The First Photographic Sitter.—It was in 1839 that the first photographic portrait with a short exposure (stated by some to be six minutes, but by others 30 minutes) caused considerable comment. The picture was termed "Dolly Draper," the sitter being the sister of Dr. John Draper, who was well known for his photographic and other researches. This historic sitter, at the advanced age of 95, has just died at Hastings, on Hudson, U.S.A. We understand that the original picture is now in the possession of the descendants of Lord Herschell.

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Birmingham Photographic Society.—From the 22nd inst. to March 1st this society will hold its annual exhibition in the rooms of the Royal Society of Artists, New Street, Birmingham.

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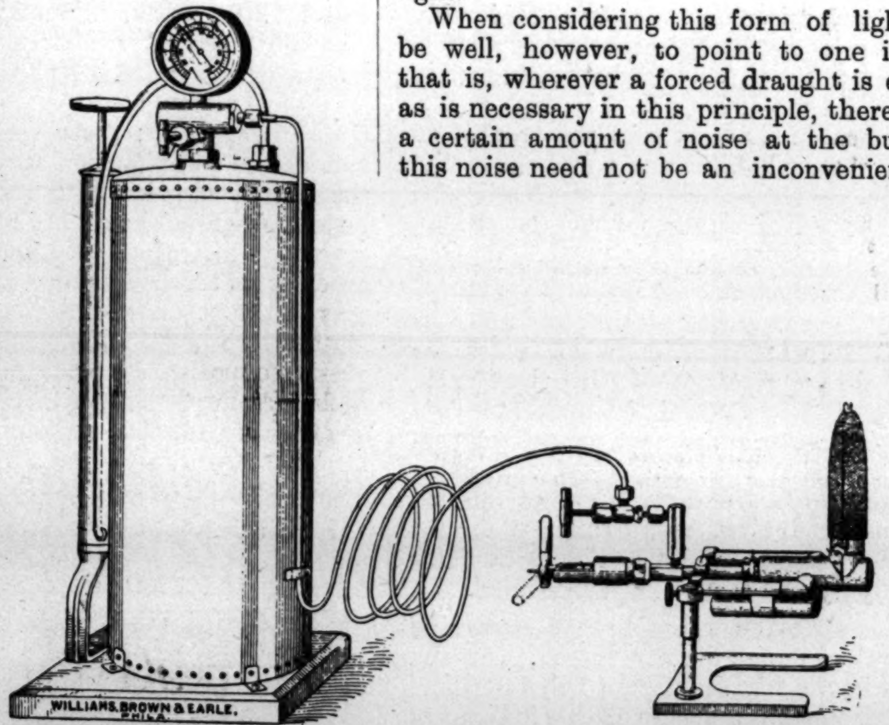
Original Lantern Slides?—It would, perhaps, be a somewhat difficult matter to give a satisfactory definition of the term "original lantern slides," although it has been stated that the first slide taken from any particular negative may be strictly termed an original slide. This question is brought up in a letter which appears in another column of this issue.

A New Lantern Illuminant.

LANTERN illumination on the new hydrocarbon principle in the United States seems to be making considerable headway. Some little time ago we gave an illustration of this form of light wherein gasoline was used, and are now enabled to give an illustration of a new form, brought out by Messrs. Williams, Brown & Earle, of 918, Chestnut Street, Philadelphia, which is said to be portable, compact, and reliable.

The total weight of the outfit is about 10 lbs., and includes a stout steel cylinder or tank 15 inches in height by 6 inches in diameter, fitted with pressure gauge, burner, mantle, pump, and connecting tubing. These and a suitable packing case are sold for 25 dollars (say £5).

The general principle is somewhat the same as that applied in the plumber's blowlamp, but with a mantle affixed above the flame. In the apparatus in question, three quarts of ordinary kerosene oil are placed in the cylinder or tank; this leaves considerable air space in the tank, which is, by means of the air pump shown at side, compressed. As the outlet pipe dips down to the bottom of the tank inside, this insures a steady and constant flow of the kerosene through the small pipe to the burner, near which it issues in the form of vapour from a minute hole. The burner must, however, first be heated by setting fire to a small quantity of spirit placed in a receptacle immediately underneath, but when once this is heated and the vapour produced, the flame itself continues to keep the vapourizer hot.



The light given by the mantle (the ordinary Welsbach kind) is, by reason of the great draught produced, rendered highly incandescent, and the light produced by this means is said to be almost equal to some of the best limelight jets. This claim is made by the makers, but on the other hand the light from the limelight jets emanates from (so to speak) a small point, whereas in this case it proceeds from a large surface. From an optical projection point of view, a point of light, of course, gives the best results.

We stated that the vapour was emitted through a very minute hole, this is so small that with the three quarts of kerosene oil placed into the cylinder or tank it maintains a good and steady light for about 36 hours, or at the rate of a gallon for every 12 hours; so that one halfpenny per hour for fuel or gas, excluding of course the mantle, cannot by any means be considered an exorbitant item for a brilliant light.

When considering this form of light it may be well, however, to point to one item, and that is, wherever a forced draught is employed, as is necessary in this principle, there must be a certain amount of noise at the burner, but this noise need not be an inconvenience if the lantern be placed a little clear of the audience, for the operator would thus be the only person who would hear it if arranged properly; anyhow, there need not be more noise than that produced from the hissing of a limelight jet. So far, this form of illumination for lantern purposes has not been exploited in this country, although the general principle is at present being tried in certain London buildings, such as the Alexandra Palace.

We feel sure that if some energetic lantern dealer were to introduce a lantern illuminant of this kind he would soon procure customers such as travelling lecturers, churches, and private house lantern entertainers. We may add that no smell is given by such a light as that to which we have alluded.

If my neighbour, who is considerably annoyed by the nightly and audible hostilities that arise between my tortoiseshell and his big tabby, would for once take the trouble to vacate his bed and watch from the window the activities of these animals, his sense of humour would be tickled by the comic silhouettes they present against the rising moon.

As among the pugilists of the human race there exists a recognised code of rules for boxing, so these members of the tiger tribe seem to respect an unchronicled understanding as to when a vicious smack or scratch is permissible. Listen to that long, low expressive hum, followed with a sudden burst of falsetto strains; and see how, meanwhile, the front paws of the songsters move with a rapidity equalled only by the motion of a fly-wheel.

Such is the spectacle I propose to reproduce upon the optical magic lantern screen, and the faithfulness in the representation will determine the extent of the influence over the imaginary powers of the observer; whether or not he shall be made to think he not only sees the animated fight, but hears also the sounds that accompany it.

The component parts of the model are all shown in Fig. II., with the exception of the actuating string and blocks L and K (Fig. I.). 3 and 4, which forms the hind legs of the animals, are made of wood about $\frac{1}{8}$ inch in thickness; these are glued to the glass fixed to the framework, and form a sort of foundation to which the other parts are connected. C and D, cut out of thin metal, zinc, or brass, form the greater portion of the cats. A slot is made at J and at I, the object of which will be explained later. The paws E and G are also of metal, and are provided with pulley wheels, fastened to the end nearest the body.

Reference being made to the diagram Fig. I., the glass having been fitted into the framework and secured, the hind legs are glued to the inner surface, and the two portions C and D are pivoted to the same at A and at B. The movable paws, which turn with the wheels, are pivoted to the bodies in the position shown.

A little washer should be placed between the wheel and the body, as shown in Fig. III. The wheel should be countersunk, as at H and Z (Fig. II.), so that the head of the screw on which it revolves may be let in just below its surface; the paws may then be fixed to the surface of the wheel, when the head of the screw will be covered. In the sectional diagram Fig. III. the wheel is shown, but without the paw attached. A sliding glass M (Fig. I.), furnished with a couple of blocks L and K glued to its inner surface, also carries two other blocks 5 and 6 (Fig. II.); these are glued to the inner side of the sliding glass M, in such a position that the pins project into the slots J and I. I have found that the easiest way to ascertain the correct position for 5 and 6 is first to get all the other parts together, place the blocks with the pins in the position shown in Fig. I., slide the glass M into position, and make a mark on the outside opposite the block carrying the pins. It is then a simple matter to smear some Siccotine on the outside of M, opposite the marks; insert it again, and make 5 and 6 adhere by means of a table knife.

It will be seen that the thread by which the model is actuated is fastened at the ends to L and to K, after having been once wound around the pulley wheels attached to the cat's paws. It should also be noticed that the thread is passed

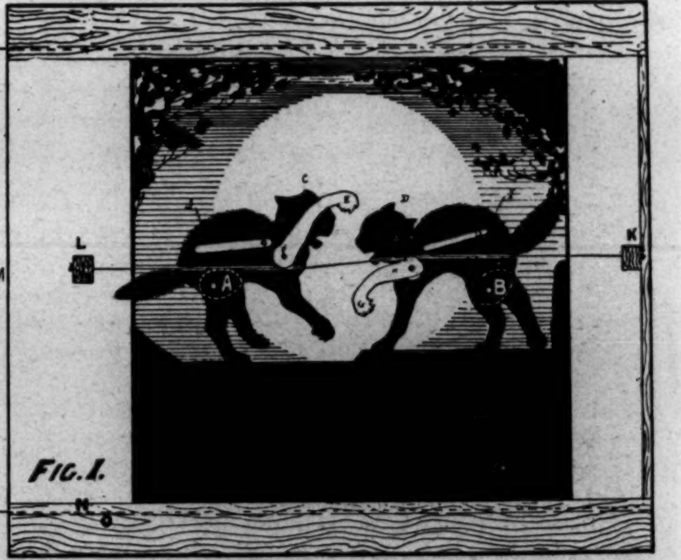


FIG. I.

round the top wheels in the opposite directions, so that when pulled from right to left (looking at Fig. I.) the animals are made to claw each other.

We will now observe the result on the screen when a completed slide is exhibited in the lantern. Assuming that the model is placed in the lantern with the glass M pushed in, the attitude of the cats will be exactly the same as that shown in Fig. I. On pulling the sliding glass out the thread will be drawn from right to left, causing the wheels to revolve in opposite directions. The paw of C will be lowered in a circular direction, whilst the paw of D will turn from left to right and be raised. At the same time the pin in the slot I, passing in an horizontal direction, will slide along the slot, lifting the front part of D upwards; the whole turning on the pivot at B. The contrary action will be given to the cat C by the pin sliding from left to right in an horizontal direction along the slot J.

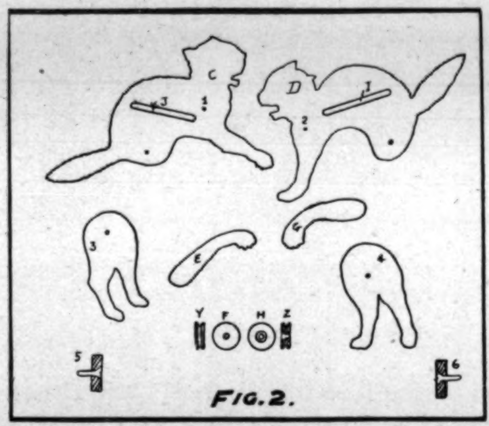


FIG. 2.

It is obvious that a modification in the speed given to the movement of the glass M will produce a corresponding modification in the action of the cats, but it is found that the best results are obtained by pushing the glass backward and forward, the inward movement being done slower than the outward. This will produce the effect of the animals raising their paws slowly previous to aiming at each other a deliberate blow.

Reference being made to the diagram Fig. III., we have here a drawing which shows the fitting up of one cat only; A being the top rail of the framework, B the sliding glass carrying the block and pin E, C the fixed glass upon which the model is mounted, G the hind legs of the cat, and D the portion of the animal forming the front leg, head, body, and tail. It will be remarked that the pin block E consists of a wooden block furnished with an ordinary screw, with the thread of same nipped off after it has been driven through. The screw should be driven almost home, the hole having first been countersunk. The projecting portion may then be held between the thumb and the finger, and the surface rubbed upon a file till the screw head is flush with the surface of the block. If this is properly done, when the whole is stuck to the glass in the position shown in the diagram, the projected pin will not rock or work loose by repeated friction against the slots made in the cat's body.

If a rivet be used to attach D to G, it must be driven home and filed off before G is glued to the glass; otherwise the jarring may crack the latter. It is always best to use small screws where the space permits.

In the previous mechanical slide described in this series, a method of producing a change in the direction of the eyes was given. The same may be adopted here if thought desirable; in which case an eye-shaped hole must be cut in the cats' heads, and the black spots forming the pupil must be painted on the fixed glass, the exact position for which may be determined by placing the parts in position and making the dots on the outside of the fixed glass. The model may then be removed and the dots made on the opposite and inside surface of the glass, when the marks on the outside may be cleaned off.

The sketching of a suitable background, such as that shown in Fig. I., composed of roof, chimneys, trees, and a disc representing the moon, completes a slide that should prove of service in the hands of the lanternist, capable of ensuring amusement whenever exhibited.

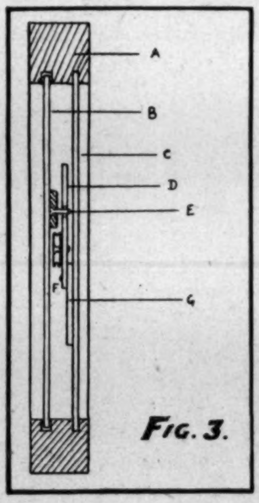


FIG. 3.

Panoramic Projections.

A NEW DEVICE.

WE are indebted to *Cosmos* for the following particulars of Messrs. Lumière's new panoramic projecting apparatus:—

Messrs. A. & L. Lumière have recently patented a reversible panoramic photographic apparatus, which, based on a new and very simple principle, gives a very satisfactory solution of panoramic projections. This spectacle will soon be presented to the public, and will be a photographic attraction which, without doubt, will be as successful as the kinematograph. The apparatus of the ingenious inventors is intended to obtain a panoramic image on a fixed cylindrical surface by displacement of the lens around this surface; the lens being accompanied by a straightening system, which maintains the image motionless on the said surface.

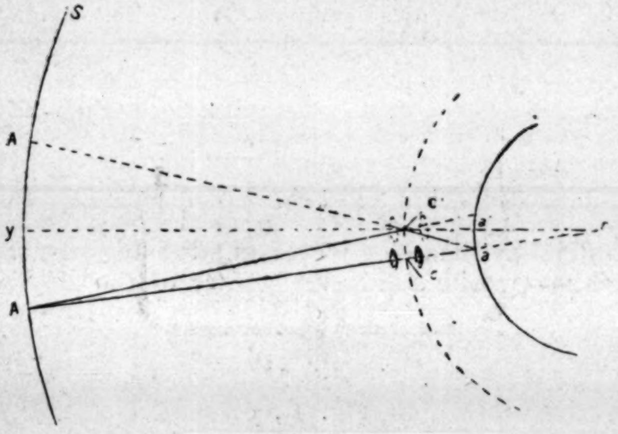


Fig. I.

The apparatus, being reversible, can be used not only for taking views, but also projection of the image obtained on a cylindrical screen. The principle on which the apparatus is based is the following:—Let C be the optical centre of a lens, and a the image given by this lens of a point A of space. If on the chief axis of this lens we take a point r, so as to have

$$\frac{r\mathrm{A}}{ra} = \frac{\mathrm{CA}}{\mathrm{C}a}$$

and turn the lens around a vertical axis, passing through this point r in such a manner that its optical centre will occupy a position C_1 very near C, the image of the point A will be formed at a_1, opposite a. But if by a suitable reflecting device we virtually transport point A to point A^1, symmetrical with A, as regards a new chief axis $r\mathrm{C}_1$, of the lens, the image of A will appear exactly at a point symmetrical with a, which, according to the proportion admitted above, and considering the slight displacement $\mathrm{C}\,\mathrm{C}_1$, will be on the line A r perceptibly confounded with point a. It results that during the passage of the lens from C to C_1, the image of A will always be on rA. We may then admit that practically, within certain angular limits of the field, the image of the cylindrical surface S S will be situated on the cylinder S S, and that this image will remain motionless during rotation of the lens. The requisite straightening for steadiness of the image can be obtained by aid of a total reflecting prism placed between C and S S. This prism is an isosceles prism with the top of the right angle removed, the hypotenuse side being parallel with the plane passing through the optical axis of the lens and the axis of rotation r.

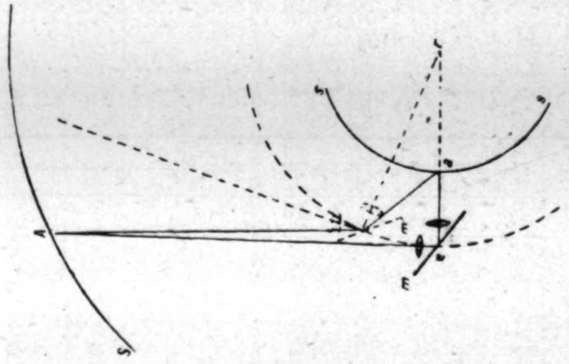


Fig. II.

The luminous rays from A in the vertical plane of axis A r are not deviated, and pass through the point a; the oblique rays are deviated so as to pass through the same point. Messrs. Lumière have adopted a mirror for their apparatus, which can be placed either before or behind the lens, or between the lenses of a rectangular lens with chief axis r C A (Fig. II.). If we work so that

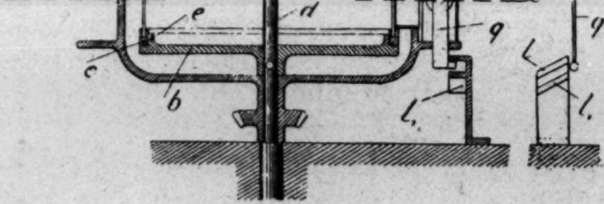


Fig. III.

$$\frac{r\mathrm{C} + \mathrm{CA}}{ra} = \frac{\mathrm{CA}}{\mathrm{C}a}$$

the image of the point A formed at a for position c of the lens is also produced at *a* when the lens has turned slightly, simultaneously with the mirror $c c_1$. Figs. III. and IV. give a vertical and horizontal section of the apparatus. The sensitised film *a* wound in form of cylinders, and thus maintained by metal bands *c c*, is placed concentric to the axis *d* of the apparatus on a fixed plate *b*, where it is retained by a circular edge *c*. Around this axis *d* a circular drum *f* revolves, containing the entire film and furnished at a point of its circumference with lens *o* and mirror *m*. A cylinder *g* placed inside drum *f*, opposite mirror *m*, limits the field of the lens to a rectangle of the height of the film and a breadth of some millimetres.

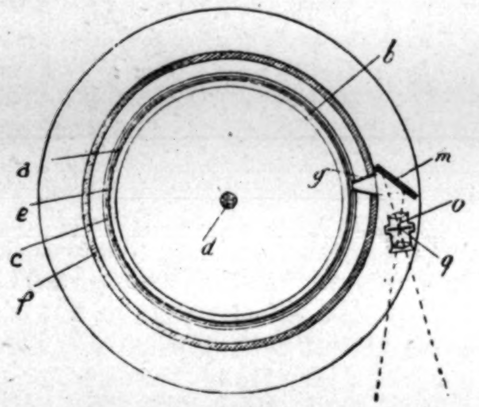


Fig. IV.

This apparatus being placed in the centre of a panorama to be photographed, a revolution of the drum *f* gives a distinct unbroken image of the said panorama. Messrs. Lumière have invented an ingenious shutter, which in the case of snapshots automatically closes the lens after a complete revolution of the drum. It is formed by a plate *q* perforated with an opening, and gliding in the lens near the diaphragm. This plate, prolonged on the exterior, is furnished with a pin, with which the two inclined planes $l l_1$ (Fig. III.) come into contact at each revolution. At rest the lens is shut by plate *q*, the opening of which is above that of the diaphragm. After a first revolution the inclined plane *l* brings this opening opposite that of the diaphragm, and opens the lens (Fig. III.). At the following revolution the inclined plane l_1, acting in turn, brings the opening under the diaphragm and again shuts the objective. Positive plates can easily be obtained from the negative given by this apparatus. Placing a positive transparent photograph instead of the sensitised film on fixed plate *b*, and suitably illuminating it from the interior, it suffices to obtain a projection of the photographed panorama on a circular screen, to rotate drum *f* rather rapidly, and the impressions on the retina continue for a complete revolution. The inventors prefer to decrease rapidity of this movement by furnishing circumference of drum *f* with several lenses, each accompanied by its straightening system.

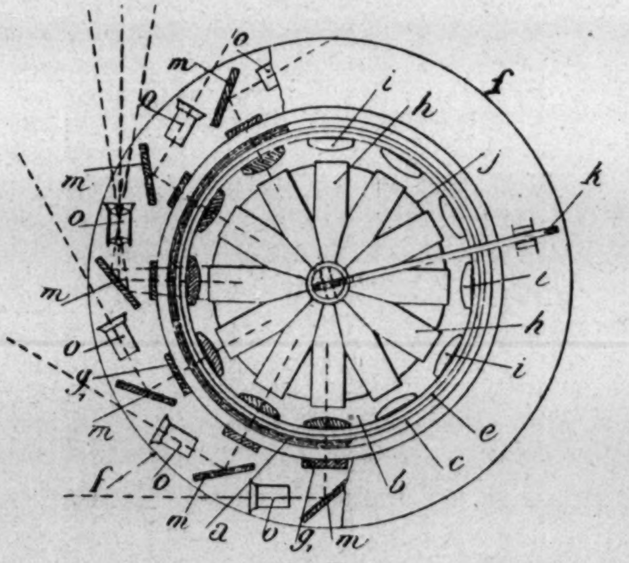


Fig. V.

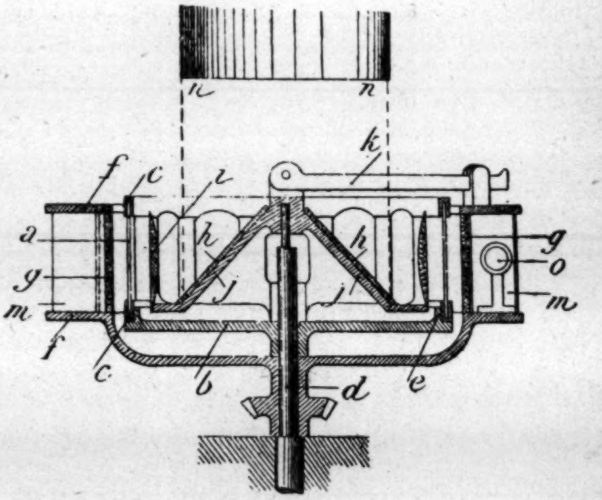


Fig. VI.

The positive transparent proof *a* is put in place of the sensitised film, and maintained cylindrical by metal hoops *c c*. The lenses *o o*, variable in number, usually 12, are like mirrors *m* carried by drum *f* (Fig. V.) In order to avoid all loss of light, cylinder *g* of Fig. IV. is not employed. There results a very slight change in the edges of the field of projection, but though insignificant, it can be corrected by employing cylindrical lenses, or even glass plates with parallel surfaces $g g_1$ fixed to the drum.

Of course, the 12 lenses are all of the same focal distance, and their position on the drum is carefully regulated so that focusing and dimensions of the projected image do not vary when one lens is substituted for another during rotation of the drum. This is very delicate, but one regulation suffices for each apparatus. Top part of drum *f* is open so that a pencil of parallel luminous rays *n n* (Fig. VI.) can enter to illuminate the film. This luminous pencil falls vertically, in centre of apparatus, on mirrors *h h*, inclined at 45 degrees and supported by a conical stand *j* revolving with the outer drum *f*.

There are 12 of these rectangular mirrors, and each of them only illuminates part of the image, which can be distinctly projected on the corresponding lens; each mirror has a condenser revolving with it. The hinged handle *k* transmits motion of drum *f* to central part; to change the views this handle is raised. The apparatus thus modified being placed in the centre of a cylindrical screen, each point of the proof is projected on a fixed point of the screen by each of the lenses passing before this point, *i.e.*, 12 times per revolution, and each time for a period equal to that of illumination of this point, viz., during passage before this point of one of the mirrors *h*. Thus a moderate speed suffices to give a continuous impression. This ingenious panoramic apparatus weighs 24 to 25 kilogrammes. The illumination at first utilised for projection on a cylindrical cloth, 3 metres high and 12 in diameter, was given by a marine searchlight consuming 75 amperes at a voltage of 110.

The definitive apparatus which will soon startle the public will utilise a cloth 20 metres in diameter. To conclude, let us add that a clever colouring of the positive image gives really interesting effects, hitherto unknown.

How to Obtain Lantern Engagements.

By THOMAS BYFORD.

THE majority of big lanternists, meaning those who possess very superior apparatus, will under no condition whatever arrange places on sharing terms, but must have a certain sum for their services. Some employ agents to book engagements, and all they seem to do is to give the show and receive the money. If certainties as they are called are not forthcoming, some mope and exhibit woe-begone faces, bemoaning their fate and the degeneration of the lantern. Plainly speaking, these people have only themselves to blame for their—as they put it—bad luck.

In these wideawake times one must be up and doing, and if certainties are not forthcoming, other means must be brought into play to bring grist to the mill. There are engagements waiting for hundreds of good lanternists on sharing terms all over the United Kingdom, and a little energy has only to be infused into the thing to bring about most excellent results. It is a well-known fact that chapels, institutes, temperance societies and the like are always in need of money. If they are approached in the right way with the correct thing it is eagerly snapped up, more especially when it is apparent that they will stand at no expense, and by a little effort on their part a good return may be forthcoming.

As an example of this we will take it that a lanternist in possession of a really good limelight outfit is, vulgarly speaking, down on his luck, *i e.*, no engagements booked nor any likelihood of their being any forthcoming. Let him sit down and write out something after the following style:—

> "We live in deeds, not years, in thoughts, not breaths,
> In feelings, not as figures on a dial,
> We should count time by heart-throbs. He most lives
> Who thinks most, feels the noblest, acts the best."

THE LIFE AND TIMES
OF THE
REV. JOHN WESLEY, M.A.

The Founder under God of the People
called Methodists.

BEAUTIFULLY ILLUSTRATED BY SIXTY MAGNIFICENT
LIMELIGHT PICTURES EMBRACING
THE MOST IMPORTANT PERIODS OF HIS LIFE.

A short explanatory Lecture will be given.

Take it to a printer and ask him to print on note-paper with a fly-leaf 150 copies. When they are to hand write out, say, 20 letters, worded somewhat like this:—

London, W.,
January 1st, 1902.

Reverend Sir,—I should be glad if you would allow me to give my limelight exhibition either in the chapel or schoolroom one evening during the month of February. Admission, sixpence. I would gladly give one-half of the gross receipts to any fund in connection with the chapel, and provide all necessary printing free of charge. Will you write me definitely within seven days, so that should you decline I may arrange with those who may accept my offer.

Faithfully yours,

If one lives in a populous district, send them to the nearest 20 Wesleyan and Methodist chapels; if in a rural district, the nearest towns must be worked. It sometimes happens that there are in one town several chapels following Methodism, and as the tickets are generally sold to the congregation and friends only, all the chapels could be worked in succession without the existence of any bad feeling. The county directories and maps must, of course, be consulted, in order to find out the necessary particulars relating to the chapels. The pastor must, if possible, be prevailed on to read the lecture; it runs more smoothly and more tickets are disposed of when it is known that the pastor will preside. Failing the attendance of the pastor, a local gentleman should be asked to preside, for it is a matter of impossibility to properly manipulate a *limelight* lantern and lecture at the same time; of course, it has been done, but not successfully.

The reading should be sent quite seven days before the date of proposed visit, thus allowing sufficient time for the reader to grasp the chief points. A chapel with a seating accommodation of 500 should easily dispose of 400 tickets. If four chapels are worked weekly, and they are within driving distance of each other, the profit accruing is apparent. Big jumps should be avoided, for it means working hard to swell the railway companies' exchequers. Some notice bills and tickets (black and white) must be sent—those in charge of the chapel will tell the number required. Programmes are not necessary. The accounts can be made up after the exhibition. In some counties small Wesleyan and Methodist chapels are to be found in quite eighty out of every one hundred villages, and the members are only too glad to arrange on terms similar to the town chapels. Price of admission in this case must be fourpence. Limelight is not essential for village chapels, acetylene or oil (the former for preference) would answer the purpose admirably. Institutes can be worked on similar lines, but theatrical-looking bills must be used.

Institute people will in some cases even go so far as to engage the best hall in the town, execute all bill posting, circular distributing, and sell tickets for 50 per cent. of gross receipts. Prices of admission should then be 2s., 1s., and 6d. each. Programmes costing say 30s. per thousand could be sold at twopence each, thus showing a good margin of profit.

The programme which is appreciated most by these societies is that which deals with their own counties. It is very necessary to wind up with something very laughable, one or two comic tales, and a number of mechanical silhouettes. Grown-up people are as eager as children to accept the humorous as well as the serious side of things. The president of the institute or some local magnate should be asked to preside and read the lecture, and such should be announced on the bills.

Money is to be made by the right people if the two methods as set forth in this article are followed. Now then lanternists and would-bes wake up, and let the next lantern season see the opening up of a new era in the lantern world. At the present time splendid business is being done by one or two smart people.

* * *

Experiences and Adventures of a Lecturer's Life.

By W. H. GOLDING.

IT is scarcely possible for a man to have been engaged in addressing public audiences for nearly a quarter of a century, visiting remote parts of the country as well as those nearer home, and meeting with all sorts and conditions of men, not to mention the gentler sex, and the rising generation—the men and women of the future—without passing through some strange experiences, sometimes ludicrous, occasionally embarrassing, and for the moment far from agreeable; frequently pleasurable, and such as are likely long to be held in happy and grateful remembrance. Many valued friendships are certain to have been made in the course of his travels by one disposed to show himself friendly, many pleasant hours spent in cheerful and congenial society amidst scenes memorable for their natural beauty, their historical association, or their commercial importance. Quiet and venerable seats of ancient learning, busy hives of modern industry, places whose fame and prosperity seem to lie buried amid the relics of what appears to be the far distant past, and whose ancient glories have apparently departed for ever and a day; these will have been visited, as well as new and

rapidly growing towns

which have arisen within the memory of living men on spots where only a few years since scarcely a house stood, and hardly a single human being found a home.

Of such varied experiences, supplying opportunities of observing many types and phases of character and life, the present writer has not been without his share, and some of them may possibly serve "to point a moral or adorn a tale," to warn or to encourage; and it may be to supply a few object lessons in the arts of how to do and how not to do it, to suggest what to seek and what to avoid.

The somewhat cumbrous and weighty appliances of the lecturer who employed the optical lantern as a means of illustrating his addresses in days not long past; the gas-bags, singularly liable to develop cracks, pinholes, and other causes of leakage, despite every precaution for their safe conveyance and use, and usually at the least opportune moments, were the cause of not a little anxiety and at times of much inconvenience; the heavy and ofttimes unwieldy pressure boards, and the various small articles, the loss or temporary absence of which threatened to prove the rift in the lute which might altogether spoil the music, and the risk of finding the local butcher or coal merchant unable or unwilling to supply the heavy weights needed to secure adequate pressure; the possible absence or insufficiency of the gas supply in an accessible position in or near the place of exhibition; all these and many other matters familiar to the experienced lanternist presented occasions of embarrassment and possible failure which needed no small degree of patience to encounter with equanimity, and of resource and presence of mind to overcome.

The manners and customs of railway companies and their officials and servants, of the proprietors and caretakers of halls and other places of meeting, and the regulations of various local authorities and others with whom the lecturer or exhibitor necessarily came into contact, supplied further opportunities for remarkable experiences, to say nothing of the varieties of wind and weather, and of adventures by flood and field.

Every lecturer or caterer for the public information or entertainment must frequently have experienced much difficulty in arranging his engagements in such a way as to enable him to visit places in the same neighbourhood on consecutive or nearly consecutive days, or even during the same journey. There seems always to have been a want of co-operation between institutions in most localities as to their days of meeting and other details which might frequently enable them to secure the services of lecturers and entertainers visiting the district, during the same week or in the course of the same journey, at less expense to themselves and those whom they engage, and very greatly to the convenience of both sides; advantages of which all parties are deprived by the system of entirely independent action. Again, it frequently occurs that several lectures or public meetings are announced for the same evening in the same neighbourhood, many of them depending on the same set of persons to form an audience, thus depriving many who desire to be present at two or more of these meetings of the opportunity of doing so, and both the speakers and promoters of the gatherings of many of their hearers and constituents. It has occurred frequently to the writer to reach a town for the purpose of fulfilling a long-standing engagement, and to be informed on arrival that the audience was likely to fall considerably below the average in consequence of other attractions in the immediate vicinity, announced perhaps only a few days previously, and obviously arranged for without previous enquiry or consideration as to what might already have been done by other local institutions. Sometimes engagements have even had to be postponed or cancelled almost at the last moment for similar reasons. There are, indeed, several unions of institutes, such as the very important one which has

existed for many years

in Birmingham, and that which has its centre in Leeds, and these secure the cooperation of institutions situated in various parts of a wide district, greatly to the convenience and advantage of those responsible for their management and of the lecturers and entertainers whom they engage. The extension of a similar system to many other localities is much to be desired, although doubtless there are many difficulties arising from local conditions and circumstances, known only to those on the spot, which render such arrangements less practicable than they would seem to be from the point of view of the lecturer or any other outsider.

It would greatly facilitate arrangements between institutions and those whose services they contemplate engaging, if a definite reply could be sent to those who have been requested to name their terms, vacant dates, etc., as soon as a decision has been come to, as to whether an engagement is to follow or not. If a lecturer or entertainer were offered an engagement which he found himself unable to accept, it would hardly be deemed courteous if he neglected to reply to that effect, in order that those who proposed it might be enabled to make other arrangements without delay; and after such neglect he could scarcely expect to be applied to at another time, or to have his own applications favourably considered. But the writer, in common with his professional colleagues, has very frequently had to infer from the continued silence of his correspondents, and sometimes after the correspondence had reached an advanced stage, that no engagement was likely to result, and in some instances repeated requests for a definite decision for or against, with an intimation that a date was being kept open and that other arrangements depended upon a speedy decision as to whether it would be required or not, have failed to elicit any reply whatever. To such cases the advice may fairly apply,

"Put yourselves in his place."

Only once during many years' experience has it occurred to the writer to arrive in a Midland town some 70 or 80 miles from home for the purpose of fulfilling a lecturing engagement, to find that he was not expected, and that no arrangements had been made or could be made at the eleventh hour for his reception and for the assembling of an audience; and only once has it been his unhappy lot to disappoint an audience through a similar oversight on his own part. In the former instance a fire in the house of the secretary to the local institution, which had destroyed his correspondence and other papers, had been the cause of the mishap, and in both a later visit was happily arranged for and the appointment duly fulfilled.

In a few instances, fortunately very few, it has occurred to the writer to be weatherbound or delayed by some incident of travel or other unforeseen cause beyond his control, leading to partial or total disturbance of the arrangements; while the cases in which such a catastrophe has been very narrowly escaped have been, in his experience, as in that of many others, far more numerous.

(*To be continued.*)

Correspondence.

ORIGINAL LANTERN SLIDES.

To the Editor.

DEAR SIR,—There is a very interesting question to which I have been unable to receive a definite answer, although I have asked several members of our society, viz.:—When can a set of lantern slides be termed an original set? My attention was called to this question by reading a programme of a lantern lecture, which stated that the lecture was to be illustrated by original lantern slides. I attended this particular lecture, and found it to be one of the usual kind, the slides for which, with reading, can be hired from almost any dealer in lanterns.

As the OPTICAL MAGIC LANTERN JOURNAL is read by lanternists all over the country, perhaps some of them can answer the question: Can a set of lantern slides (original paintings, of course, excepted) be termed original under any of the following heads?

1. When the set can be hired from almost any dealer.
2. When the negatives are taken from illustrations and slides made therefrom; for in this case all negatives made from the particular illustrations would be the same.
3. When the negatives from Nature are in the possession of one person, and have never been duplicated, but several sets of slides made from same, which are in turn supplied to dealers for hiring out.
4. When only one set of slides has been taken from certain negatives, and shown for the first time only. Can these be considered original when shown for the second or third time?
5. If several sets are made from the same series of negatives, is the first set made the original one, although they cannot be distinguished from the thirteenth or fourteenth set?
6. Are all slides made from negatives original slides (I do not mean slides from original negatives)? If so, all slides in existence have a right to be termed original slides.

Hoping that in next issue there will be an expression of opinion in the matter.—I remain,

Yours truly,

JAS. BENSON OSBORNE.

OIL LAMPS.

To the Editor.

DEAR SIR,—I observe that in your last issue two correspondents speak of using boiling water and soda to clean oil lamps used in the lantern. This, in my opinion, is not to be recommended, for if a trace of water gets into the oil reservoir it is most difficult to remove, and if it happens to get in the wick it prevents the oil from flowing properly. Should the interior of the oil reservoir require cleaning a little of the best paraffin oil can best be used for this purpose. If a lamp smells after all parts have been perfectly cleaned the cause may be looked for in the form of inferior oil or else the imperfect combustion of the lamp. There is no need to frequently remove the wicks, and if the finest refined oil, such as Dener's A 1 or Strange's A 1, is used the interior of the lamp will rarely require cleaning.

Yours truly,

"EXPERIENCE."

[In the articles referred to by our correspondent it was to be supposed that proper care would be taken so that no moisture would be left either in the wicks or oil reservoir.—Ed.]

LONG FOCUS LENSES.

To the Editor.

Dear Sir,—The correspondent who signs himself "Prophet" in January Journal will, I fear, not see his prophecy realised. He does not appear to consider that in order to get the same illumination with a 9 inch lens as with one of 6 inch focus and 2 inch diameter, the former would require to have a diameter of 3 inches, and this would considerably add to the cost of the lantern. If two lanterns each provided with the same strength of illuminant be used to project a 4 feet picture, the one lantern having a lens of 9 inch focus and 2 inch diameter and the other a lens of same diameter but 6 inch focus, the brightness of the latter compared with the former will at once be apparent.

Yours truly,

W. STOCKS (Patentee).

Rye, Sussex.

PATENT INTELLIGENCE.

Compiled expressly for this Journal by Messrs. W. P. Thompson & Co., Chartered Patent Agents, 322, High Holborn, London, W.C., and at Liverpool and Birmingham, to whom all enquiries should be addressed.

No. Recent Patent Applications.

26319. 24th December, 1901. F. Mitchell, London. Improvements in projecting lantern and stereoscopic apparatus.

26747. 31st December, 1901. R. W. Paul, London. Improvements in apparatus for taking and projecting animated photographs.

846 11th January, 1902. A. E. E. Bréard, London. An improvement in cinematographs.

Copies of any of these specifications may be obtained of Messrs. W. P. Thompson & Co., Chartered Patent Agents, 322, High Holborn, London, W.C., and at Liverpool and Birmingham, price, post free, 1s. in stamps.

Specifications Published.

21873. Haddan. Method and apparatus for developing, fixing, and toning cinematographs and other photographic films.

Notes and Queries.

Slides.—With an ordinary negative the exposure might vary from 10 to 60 seconds at a distance of 7 or 8 inches from an ordinary gas burner. Better try 20 seconds and see how it comes out, for it is impossible to give full details without seeing the negatives and knowing other particulars. A few minutes' experimenting on your own account will soon set you right.

W. Thomas (*Nova Scotia*).—Thanks for enclosure; it is alluded to with one or two comments elsewhere. We have looked the matter up and find that your subscription does not expire until No. 158. Our publishing department will notify you when the time comes round. The cinematograph when used in this country, in buildings controlled by the authorities, must have the apparatus boxed up in a sort of fireproof hut with a supply of water, blankets, etc., close at hand.

C. Smith.—Thanks for enclosure.

H. Williams.—If you look in the *Exchange and Mart* you will find advertisements of Government supplies for sale—these often include all kinds of tents—or write to Messrs. Dean, second-hand tent dealers, 274, Corporation Street, Birmingham.

Ch. Carter.—Ere you have seen this, your opera glass will have been returned to you. If you remove one of the larger glasses and mount it in a tube with a stop in front you will have a capital achromatic view lens for taking photographs.

Expert.—Our choice would be in the following order:—4, 2, 1, 3. Number three, however, is practically useless.

D. Sharratt.—An average oil lantern lamp and an incandescent burner attached to house fittings give about the same amount of light under the best conditions of each.

R. Holmes.—You say your dealer connected a 60 feet cylinder, full of gas, with your empty 40 feet cylinder, opened the valves and put 40 feet of gas into yours. It is quite possible that he may have told you this, and as you say, charged you for this quantity. But all the same it is not true that you received 40 feet under these circumstances, for under these conditions only 24 feet would go into your cylinder. You thus paid for 16 feet more than you got. Show him this answer.

Rev. S. G. Wood.—By means of a short and strong connecting piece you can allow some of the contents of your 40 feet cylinder to run into your 10 feet cylinder, and provided the connection is strong there is no danger. If your connections are *strong enough* you could connect two cylinders, using one regulator and outflow, so as to switch on one cylinder as soon as the other was empty; but this is a plan we would not advocate. If you had two regulators, one on either cylinder, it would be a simple enough matter to so arrange piping, Y piece and taps that you could switch on as mentioned; but all things considered, the game is not worth the candle in your case. If you have only the one regulator better take advantage of an interval to attach it to the new cylinder.

Index will appear in next issue.